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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/801,798	03/17/2004	Kyoko Izuha	04329.3271	1896

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EXAMINER

WHITMORE, STACY

ART UNIT	PAPER NUMBER
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2825

DATE MAILED: 06/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/801,798

Applicant(s)

IZUHA ET AL.

Examiner

Stacy A. Whitmore

Art Unit

2825

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 May 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) 2, 4, 6, 8, 10, 12, 14 and 16-22 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 3, 5, 7, 9, 11, 13 and 15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>3/17/2004</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Applicant's election without traverse of Group I, claims 1, 3, 5, 7, 9, 11, 13, and 15 in the reply filed on May 11, 2006 is acknowledged.

Claim Objections

2. Claim 3 is objected to because of the following informalities: The claim term "Foulier" is an apparently misspelled word. The word should be "Fourier". Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1, 3, 7, 9, 11, 13, and 15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

I. In claims 1 and 15, lines 3-4, the limitation "which is predicted from a design pattern" is unclear. It is unclear which pattern is being referred to, the desired or the finish pattern. Applicant is requested to clarify the claim language.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 11, 13, and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by Chang (US Patent 6,470,489).

5. As for the claims, Chang discloses the invention as claimed, including:

An edge deviation calculation method in which a desired pattern is compared with a finish pattern to be formed on a wafer, which is predicted from a design pattern, based on a calculation of a light beam intensity, and a deviation quantity of the finish pattern from the desired pattern at each of edges of the finish pattern and the desired pattern is calculated, the calculation method comprising:

setting a reference light beam intensity for setting the desired pattern on a wafer [abstract; figs. 12, 21-23; and col. 4 – col. 5, line 27];

setting an evaluation point for the finish pattern with the desired comparison of pattern [abstract; figs. 12, 21-23; and col. 4 – col. 5, line 27];

calculating a light beam intensity at the evaluation point [abstract; figs. 12, 21-23; and col. 4 – col. 5, line 27];

calculating a differentiation value of the light beam intensity at the evaluation point [abstract; figs. 12, 21-23; and col. 4 – col. 5, line 27];

calculating an intersection of the differentiation value with the reference light beam intensity [abstract; figs. 12, 21-23; and col. 4 – col. 5, line 27]; and

calculating a difference between the intersection and the evaluation point [abstract; figs. 12, 21-23; and col. 4 – col. 5, line 27];

wherein the difference is defined as an edge deviation quantity of the finish pattern from the desired pattern [abstract; figs. 12, 21-23; and col. 4 – col. 5, line 27];

Art Unit: 2825

changing at least one of the reference light beam intensity and focus within each of determined ranges, and comparing the mask pattern with the finish pattern [abstract; figs. 12, 21-23; and col. 4 – col. 5, line 27];

wherein the design pattern is a corrected pattern corrected to provide the desired pattern [abstract; figs. 12, 21-23; and col. 4 – col. 5, line 27];

verifying the edge deviation quantity [abstract; figs. 12, 21-23; and col. 4 – col. 5, line 27];

wherein, in the case where the edge deviation quantity exceeds an allowable range, the design pattern is corrected based on the deviation quantity [abstract; figs. 12, 21-23; and col. 4 – col. 5, line 27].

Allowable Subject Matter

6. Claims 3, 5, 7, and 9 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

7. The following is a statement of reasons for the indication of allowable subject matter: The prior art of record fails to disclose either singularly or in combination the invention as claimed, including the method of edge deviation calculation comprising at least the calculating steps of claim 3; the calculating step of claim 5; the n-story differentiation of a light beam intensity comprising the polynomial of claim 7; and the n-story differentiation of a light beam intensity comprising the polynomial and Taylor expansion of claim 9.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stacy A. Whitmore whose telephone number is (571) 272-1685. The examiner can normally be reached on Monday-Thursday, alternate Friday 6:30am - 4:00 pm.

Art Unit: 2825

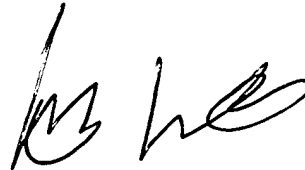
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack Chiang can be reached on (571) 272-7483. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Stacy A Whitmore

Primary Examiner

Art Unit 2825

A handwritten signature in black ink, appearing to read 'SAW', is written over the printed name and title of the examiner.

SAW

May 27, 2006